

ECOLOGICAL EFFECTS BRANCH  
REVIEW

DATE: IN 8-20 OUT 5-2-80

FILE OR REG. NO. 464-323

PETITION OR EXP. PERMIT NO. \_\_\_\_\_

DATE DIV. RECEIVED \_\_\_\_\_

DATE OF SUBMISSION \_\_\_\_\_

DATE SUBMISSION ACCEPTED \_\_\_\_\_

TYPE PRODUCT(S): I, D, (H), F, N, R, S Herbicide

DATA ACCESSION NO(S). \_\_\_\_\_

PRODUCT MGR. NO. 25 Taylor

PRODUCT NAME(S) Tordon 22K

COMPANY NAME Dow Chemical

SUBMISSION PURPOSE Registration of use in spring barley, spring and  
winter wheat, and oats

CHEMICAL & FORMULATION 4-amino-3,5,6-trichloropicolinic acid, as the  
potassium salt .....24.9%

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Pesticide Name    Tordon 22K

100    Pesticide label Information

100.1    Pesticide Use

Tordon 22K Weed Killer is currently registered to control annual and deep rooted perennial weeds growing in non-cropland areas such as fence rows, around farm buildings and other banks of ditches. This registration is for restricted use only. The proposed label amendment would add the use Tordon 22K only as a tank mix with 2,4-D amine formulations for weed control on spring barley, spring and winter wheat, and oats.

100.2    Formulation Information

Picloram, as the potassium salt.....24.9%  
Inerts.....75.1%  
Acid Equivalent: Picloram -- 2 lbs/gallon

100.3-100.5    See appendix.

101    Physical and Chemical Properties

See review by L. Touart (5/2/80) on Tordon 202.

102    Behavior in the Environment

See Environmental Fate Branch reviews of 3/25/80, 11/24/78, 12/18/75 and 11/15/73.

103    Toxicological Properties

See EEB review by T. O'Brien (4/4/77).

104    Hazard Assessment

The proposed label amendment to Tordon 22K would add a use virtually identical to the proposed use of Tordon 202. Comments made by L. Touart in the 5/2/80 review of Tordon 202 would apply to Tordon 22K.

105/106    Classification/RPAR Criteria

Tordon 22K is classified for restricted use only. Additional information is needed to determine if any RPAR triggers have been exceeded by the proposed use.

Conclusions

The Ecological Effects Branch cannot concur with the conditional registration of Tordon 22K Weed Killer herbicide for use in a tank mix with 2,4-D amine formulations on spring barley, spring and winter wheat, and oats. Additional fish and wildlife studies are necessary to complete a hazard assessment (see 107.5).

107.4 Data Adequacy Conclusions

See review by L. Touart (5/2/80) on Tordon 202.

107.5 Data Requests

The following studies are required by the Ecological Effects Branch before an Environmental Hazard Assessment can be completed.

1. An Avian Reproduction Study on the Bobwhite quail for each of the two active ingredients in the Tordon 22K-2,4-D amine tank mix.  
[Sec. 163.71-4(a)(3), EPA Guidelines 7/10/78]
2. An Avian Reproduction Study on the Mallard duck for each of the two active ingredients in the Tordon 22K-2,4-D amine tank mix.  
[Sec. 163.71-4(a)(3)]
3. A Fish Embryo-Larvae Chronic Toxicity Study on the Fathead minnow, Brook trout or other acceptable species for each of the two active ingredients in the Tordon 22K-2,4-D amine tank mix.  
[Sec. 163.72-4(a)(1)(iv)]
4. An Aquatic Invertebrate Life-Cycle Toxicity Study on Daphnia Magna for each of the two active ingredients in the Tordon 22K-2,4-D amine tank mix. [Sec. 163.72-4(a)(1)(iv)]
5. In order to determine the phytotoxic effect of Tordon 22K-2,4-D amine tank mixes where receiving waters from leaching and/or runoff are used for irrigation, the following phytotoxicity studies will be required:

a) Algae growth:

Selenastrum capricornutum or Chlorella sp.  
Ref. - Miller, W.E. J.C. Greene and T. Shiroyama. 1978. The Selenastrum capricornutum Printz Algal Assay Bottle Test. USEPA, Corvallis, OR 97330. (EPA-600/9-78-018)

b) Terrestrial Macrophytes:

Seed germination (in soil) and vegetative vigor on --

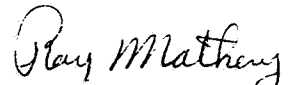
- i) Tomato
- ii) Cucumber
- iii) Carrot
- iv) Wheat
- v) Rye
- vi) Lettuce

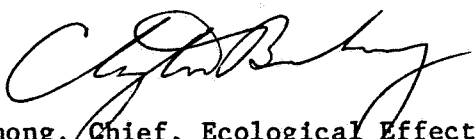
Ref. -- Truelove, B. 1977. Research Methods in Weed Science. Southern Weed Science Society, Auburn, AL 36830.  
[Sec. 163.70-1(d)]

6. A Field Monitoring Study to determine the concentrations of the Tordon 22K-2,4-D amine tank mix active ingredients and degradates in runoff water and sediment, leachate and groundwater, and in the water and sediment of receiving aquifers (i.e. lakes, ponds, etc.). An acceptable protocol should be verified through the Ecological Effects Branch. [Sec. 163.70-1(d)]

Any of the above studies currently in EPA files may be referenced, but completed reports should be submitted for all studies not previously submitted. Any questions concerning the above requests or acceptable protocols should be directed to the Ecological Effects Branch.

 5/9/80  
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 5/9/80  
Ray Matheny, Head, Section 1

  
Clayton Bushong, Chief, Ecological Effects Branch